



JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power
 Application: Generator
 1500 RPM (50 Hz)

PowerTech 6.8L Engine

Model: **6068HF475**

252 hp (188 kW) Prime

278 hp (207 kW) Standby

[See Option Code Tables]

Nominal Engine Power @ 1500 RPM			
Prime		Standby	
HP	kW	HP	kW
252	188	278	207

Generator Efficiency %	Fan Power		Power Factor	Prime Rating		Standby Rating ¹		4 sec Standby Block Load Capability
	hp	kW		kW	kVA	kW	kVA	
88-92	13.9	10.4	0.8	156-163	195-204	173-181	216-226	70%

Note 1: Based on nominal engine power. Derate 30% for 100% block load capability.

Air Intake Restriction 12 in.H₂O (3 kPa)
 Exhaust Back Pressure 30 in.H₂O (7.5 kPa)

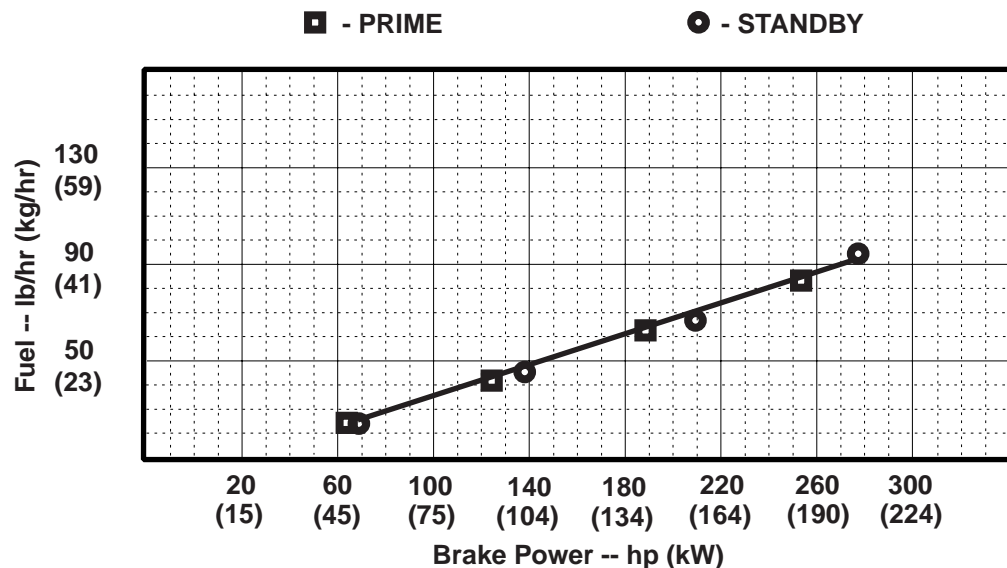
Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:

- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometer
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

Conversion factors:

- Power: kW = hp x 0.746
- Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg
- Torque: N*m = lb-ft x 1.356

All values are from currently available data and are subject to change without notice.



Notes:

All OEM Gen Set Engine Applications must be pre-screened for torsional vibration compatibility with the respective alternator end hardware.

*OEM Engine Application Engineering will perform this computer-based analysis work upon request. **

Tier-2 Emission Certifications:

Certified by:

NONE

Ref: Engine Emission Label

Brian L. Carlson
19 APRIL 2002

* Revised Data

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Engine Specification Data

General Data

Model 6068HF475
 Number of Cylinders 6
 Bore and Stroke--in. (mm)..... 4.19 x 5.00 (106 x 127)
 Displacement--in.³ (L)..... 415 (6.8)
 Compression Ratio 17.0:1
 Valves per Cylinder--Intake/Exhaust 2 / 2
 Firing Order 1-5-3-6-2-4
 Combustion System Direct Injection
 Engine Type In-line, 4-Cycle
 Aspiration Turbocharged
 Charge Air Cooling System Air-to-Air
 Engine Crankcase Vent System Open
 Maximum Crankcase Pressure--in.H₂O (kPa) 2 (0.5)

Physical Data

Length--in. (mm) 43.9 (1116)
 Width--in. (mm) 24.5 (623)
 Height--in. (mm) 39.8 (1012)
 Weight, dry--lb (kg)..... 1294 (587)
 (Includes flywheel hsg., flywheel & electrics)
 Center of Gravity Location
 From Rear Face of Block (X-axis)--in. (mm) .14.5 (369)
 Right of Crankshaft (Y-axis)--in. (mm) 0.1 (3)
 Above Crankshaft (Z-axis)--in. (mm) 6.1 (154)
 Max. Allow. Static Bending Moment at Rear
 Face of Flywhl Hsg w/ 5-G Load--lb-ft (N•m) .. 600 (814)
 Thrust Bearing Load Limit (Forward)
 Intermittent--lb (N)..... 900 (4003)
 Continuous--lb (N) 500 (2224)

Electrical System

12 Volt **24 Volt**

Rec'd Battery Capacity (CCA)--amp 800 570
 Max. Allow. Start. Circ't Resist.--Ohm .. 0.0012 0.002
 Starter Rolling Current:
 At 32 °F (0 °C)--amp 920 600
 At -22 °F (-30 °C)--amp 1300 700

Air System

Prime **Standby**

Max. Allowable Temp Rise--Ambient Air to
 Engine Inlet--°F (°C) 46 (8) 46 (8)
 Maximum Air Intake Restriction
 Dirty Air Cleaner--in.H₂O (kPa) 25 (6.3) 25 (6.3)
 Clean Air Cleaner--in.H₂O (kPa) 12 (3) 12 (3)
 Engine Air Flow--ft³/min (m³/min) 427 (12.1) .. 466 (13.2)
 Intake Manifold Pressure--psi (kPa) ... 25 (171)..... 29 (199)
 Recm'd Intake Pipe Dia--in. (mm)..... 3 (76.2) 3 (76.2)
 Compress. Discharge Temp--°F (°C) .338(170) ... 370 (188)
 Max. Press. Drop Through
 Charge Air Cooler--in.H₂O (kPa).... 52 (13) 52 (13)
 Max. Temp. Out of Charge Air Cooler @
 77°F (25°C) Ambient Air--°F (°C) .113 (45) 113 (45)

Cooling System

Prime **Standby**

Engine Heat Reject.--BTU/min (kW) .. 4497(79) 4946(87)
 Air/Air Exchanger Heat Rejection--
 BTU/min (kW) 1622(28.5) . 2004(35.2)
 Coolant Flow--gal/min (L/min)..... 50* (189*) .. 50* (189*)
 Thermostat Start to Open--°F (°C) 180 (82) 180 (82)
 Thermostat Fully Open--°F (°C)..... 201 (94) 201 (94)
 Engine Coolant Capacity--qt (L) 12 (11.3) 12 (11.3)
 Recm'd Pressure Cap--psi (kPa) 10 (69) 10 (69)
 Max. Top Tank Temp--°F (°C) 221 (105) ... 221 (105)
 Min. Coolant Fill Rate--gal/min (L/min) ... 3 (11) 3 (11)
 Min. Air-to-Boil Temperature--°F (°C) .117 (47) 117 (47)

Exhaust System

Prime **Standby**

Exhaust Flow--ft³/min (m³/min)..... 1112(31.5) . 1222(34.6)
 Exhaust Temperature--°F (°C) 975 (524) . 1004 (540)
 Maximum Allowable Back
 Pressure--in.H₂O (kPa) 30 (7.5) 30 (7.5)
 Recm'd Exhaust Pipe Dia--in. (mm) .. 4 (101.6) 4 (101.6)

Fuel System

Prime **Standby**

Fuel Injection Pump (Denso) HPCR HPCR
 Governor Regulation 5 % 5 %
 Governor Type Electronic Electronic
 Total Fuel Flow--lb/hr (kg/hr) 146.4 (66.4) . 156.1 (70.8)
 Fuel Consumption--lb/hr (kg/hr) 82.5 (37.4) ... 92.2 (41.8)
 Maximum Fuel Transfer Pump
 Suction--ft (m) fuel 3 (0.9) 3 (0.9)
 Max. Fuel Inlet Temp.--°F (°C)..... 176 (80) 176 (80)
 Fuel Filter Micron Size @ 98 % Efficiency ... 2 2

Lubrication System

Data based on engine with oil pan option code 1961

Prime **Standby**

Oil Pressure
 at Rated Speed--psi (kPa) 45 (310) 45 (310)
 Oil Pressure at Low Idle--psi (kPa) 15 (105) 15 (105)
 In Pan Oil Temperature--°F (°C) 228 (109) ... 230 (110)
 Oil Pan Capacity, High--qt (L) 33 (31.5) 33 (31.5)
 Oil Pan Capacity, Low--qt (L) 29 (27.5) 29 (27.5)
 Total Eng. Oil Capacity w/ Filters--qt (L)34 (32) 34 (32)
 Eng. Angularity Limits and direction--deg.
 Continuous 20 20

Performance Data

Prime **Standby**

Rated Power--hp (kW) 252 (188)..... 278 (207)
 Rated Speed--rpm 1500 1500
 Low Idle Speed--rpm 1400 1400
 BMEP--psi (kPa) 322 (2217).... 354 (2438)
 Friction Power
 @ Rated Speed--hp (kW) 17 (13)..... 17 (13)
 Altitude Capability--ft (m) 10,000 (3050) ... 8500 (2590)*
 Ratio--Air : Fuel 21.6:1 21.1:1
 Noise--dB(A) @ 1 m NA NA

Fuel Consumption -- lb/hr (kg/h)

Prime **Standby**

25 % Power 22.7 (10.3)..... 24.9 (11.3)
 50 % Power 41.7 (18.9)..... 45.9 (20.8)
 75 % Power 61.7 (28.0)..... 67.9 (30.8)
 100 % Power 82.5 (37.4)..... 92.2 (41.8)

All values at rated speed and power with standard options unless otherwise noted.

* Revised Data

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Engine Specification Data

Electronic Engine Controls (JDEC)

Performance System Option Code Table		
Option Codes		System
Injection Pump	Performance Software	Voltage
161U	72AS	12V
165B*	72CT*	24V

ECU Feature Software Option Code (8300 Group) Table Generator* Applications -- 4-valve HPCR							
Option Code	Oil Pressure Sensor	Governing 8 % or Isochronous	Cruise Control	Engine Protection		Available Throttle Inputs	
				ECU Software	External Input	Analog	Digital
8365	No	Selectable	No	None	Derate & Shutdown	Two	Adj. 3-State
8366	Yes	Selectable	No	None	Derate & Shutdown	Two	Adj. 3-State
8367	Yes	Selectable	No	Shutdown	Derate & Shutdown	Two	Adj. 3-State

All values at rated speed and power with standard options unless otherwise noted.

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